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WHAT IS CLAIMED IS:

1. A simulation method for simulating an amount of occurrence of local flare which occurs in an exposure process in manufacturing a semiconductor device, comprising the steps of:

dividing a layout of a photo mask into a plurality of areas,

calculating an average value of light intensity in each of the areas, and

estimating the amount of occurrence of local flare in each of the areas on the basis of each of the average values.

2. The simulation method according to claim 1, wherein

each of the average values is subjected to smoothing processing, a smoothed average value is multiplied by a first multiplier, and an obtained value is evaluated as the amount of occurrence of local flare in each of the areas.

3. The simulation method according to claim 1, wherein

when the average value of light intensity in each of the areas is calculated, diffracted light is calculated by a Fourier transformed image of each of the areas of the layout, and the average value is calculated by multiplying the light intensity of the diffracted light passing through a projection lens by a second multiplier.

4. The simulation method according to claim 1, wherein

each of the values evaluated as the amount of occurrence of local flare is added to the light intensity in order to simulate an optical image.

5. The simulation method according to claim 1, wherein

each of the values evaluated as the amount of occurrence of local flare is used in optical proximity correction.

6. Simulation equipment for simulating an amount of occurrence of local flare which occurs in an exposure process in manufacturing a semiconductor device, comprising:

division unit for dividing a layout of a photo mask into a plurality of areas;

average light intensity value calculation unit for calculating an average value of light intensity in each of the areas,

wherein the amount of occurrence of local flare in each of the areas is estimated on the basis of each of the average values.

7. The simulation equipment according to claim 6 further comprising:

smoothing unit for subjecting the calculated average value to smoothing processing, and

multiplication unit for multiplying the smoothed average value by a first multiplier,

wherein each obtained value is evaluated as the amount of occurrence of local flare in each of the areas.

8. The simulation equipment according to claim 6, wherein

when the average value of light intensity in each of the areas is calculated, diffracted light is calculated by a Fourier transformed image of each of the areas of the layout, and the average value is calculated by multiplying the light intensity of the diffracted light passing through a projection lens by a second multiplier.

9. The simulation equipment according to claim 6, wherein

each of the values evaluated as the amount of occurrence of local flare is added to the light intensity in order to simulate an optical image.

10. The simulation equipment according to claim 6, wherein each of the values evaluated as the amount of occurrence of local flare is used in optical proximity correction.

11. A computer-readable storage medium on which a computer program is stored, said computer program comprising:

a computer-readable program code means for executing a step of dividing a layout of a photo mask into a plurality of areas;

a computer-readable program code means for

executing a step of calculating an average value of light intensity in each of the areas; and

a computer-readable program code means for executing a step of simulating and estimating an amount of occurrence of local flare in each of the areas on the basis of each of the average values, the local flare occurring in an exposure process in manufacturing a semiconductor device.

12. A computer program product comprising: ✓

a computer-readable program code means for executing a step of dividing a layout of a photo mask into a plurality of areas;

a computer-readable program code means for executing a step of calculating an average value of light intensity in each of the areas; and

a computer-readable program code means for executing a step of simulating and estimating an amount of occurrence of local flare in each of the areas on the basis of each of the average values, the local flare occurring in an exposure process in manufacturing a semiconductor device.